

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A process for purifying crude caprolactam ~~which has been obtained by comprising~~
 - 1) converting a mixture (I) comprising 6-aminocapronitrile and water to a mixture (II) comprising caprolactam, ammonia, water, high boilers and low boilers in the presence of a catalyst, ~~then~~
 - 2) removing ammonia from the mixture (II) to obtain a mixture (III) comprising caprolactam, water, high boilers and low boilers, ~~then~~
 - 3) completely or partly removing water from the mixture (III) to obtain crude caprolactam (IV) comprising caprolactam, high boilers and low boilers, and
 - 4) ~~which comprises~~ distilling the crude caprolactam (IV) comprising
 - a) feeding the crude caprolactam (IV) and an inorganic acid which has a boiling point above the boiling point of caprolactam ~~under the distillation conditions of the following steps b) to h)~~ to a first distillation apparatus C1,
 - b) distilling the crude caprolactam IV and the inorganic acid in the first distillation apparatus C1, and removing a first substream in the bottom region and a second substream in the top region of the distillation apparatus C1,
 - c) feeding the second substream from step b) to a second distillation apparatus C2,
 - d) distilling the second substream from step b) in the second distillation apparatus C2, and removing a first substream in the bottom region and a second substream in the top region of the distillation apparatus C2,
 - e) feeding the first substream from step d) to a third distillation apparatus C3,

- f) distilling the first substream from d) in the third distillation apparatus C3, and removing a first substream in the bottom region and purified caprolactam in the top region of distillation apparatus C3, and
 - g) feeding the first substream from step f) to the first distillation apparatus C1.
- 2. (Currently Amended) A process as claimed in claim 1, wherein mixture (I) ~~additionally~~ further comprises an organic liquid diluent.
- 3. (Original) A process as claimed in claim 2, wherein the liquid diluent is removed in step 3), before, during or after the removal of water from mixture (III).
- 4. (Currently Amended) A process as claimed in ~~any of claims 1 to 3~~ claim 1, wherein low boilers are removed or high boilers are removed or low boilers and high boilers are removed between step 3) and step 4a).
- 5. (Original) A process as claimed in claim 4, wherein first low boilers and then high boilers are removed.
- 6. (Currently Amended) A process as claimed in claim 4 ~~or 5~~, wherein 6-aminocapronitrile is removed as a low boiler.
- 7. (Currently Amended) A process as claimed in ~~any of claims 1 to 6~~ claim 1, wherein the inorganic acid used is phosphoric acid.
- 8. (Currently Amended) A process as claimed in ~~any of claims 1 to 7~~ claim 1, wherein the weight ratio of the substream comprising purified caprolactam removed in the top region to the substream removed in the bottom region ~~in step f)~~ of the distillation apparatus C3 is in the range from 0.3 to 2.0.
- 9. (Currently Amended) A process as claimed in ~~any of claims 1 to 8~~ claim 1, wherein at least a portion of the first substream obtained in step b) is mixed with the crude caprolactam ~~according to the preamble (IV)~~.

10. (Currently Amended) A process as claimed in claim 9, wherein the weight ratio of the first substream obtained from the distillation apparatus C1 that is mixed with the crude caprolactam (IV) ~~to crude caprolactam~~ is in the range from 0.01 to 0.3.
11. (Currently Amended) A process as claimed in ~~any of claims 1 to 10~~ claim 1, wherein at least a portion of the second substream obtained ~~in step d)~~ from the distillation apparatus C2 is recycled in step 3) before the low boilers are removed.
12. (Currently Amended) A process as claimed in ~~any of claims 1 to 11~~ claim 1, wherein the bottom temperature in the distillation apparatus C1 is in the range from 120 to 200°C.
13. (Currently Amended) A process as claimed in ~~any of claims 1 to 12~~ claim 1, wherein the pressure in one, two or three of distillation apparatus C1, C2, C3 is at least 40 bar, measured in the top region/~~bottom~~ region.
14. (Currently Amended) A process as claimed in ~~any of claims 1 to 13~~ claim 1, wherein the first substream from ~~step f)~~ distillation apparatus C3 is introduced at the top of the distillation apparatus C1.
15. (New) A process as claimed in claim 8, wherein the inorganic acid used is phosphoric acid.
16. (New) A process as claimed in claim 8, wherein at least a portion of the second substream obtained from the distillation apparatus C2 is recycled in step 3) before the low boilers are removed.
17. (New) A process as claimed in claim 10, wherein at least a portion of the second substream obtained from the distillation apparatus C2 is recycled in step 3) before the low boilers are removed.